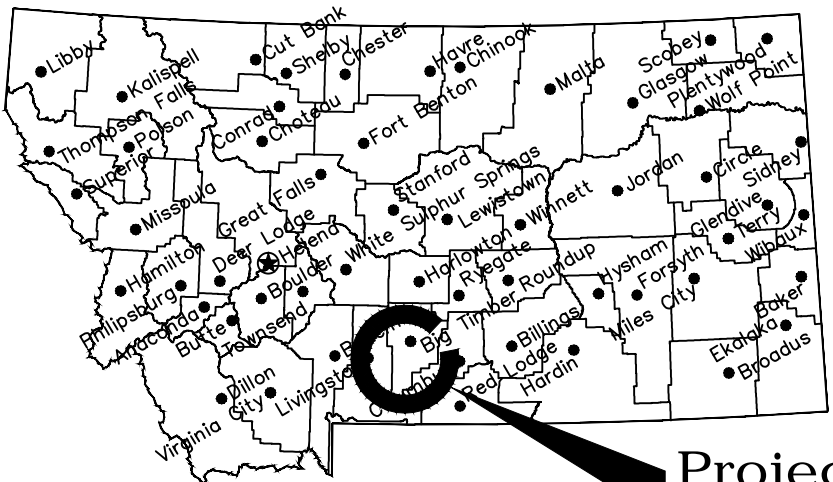


PROPOSED SITE IMPROVEMENTS AT THE

# BOULDER FORKS FISHING ACCESS SITE

SWEET GRASS COUNTY , MONTANA

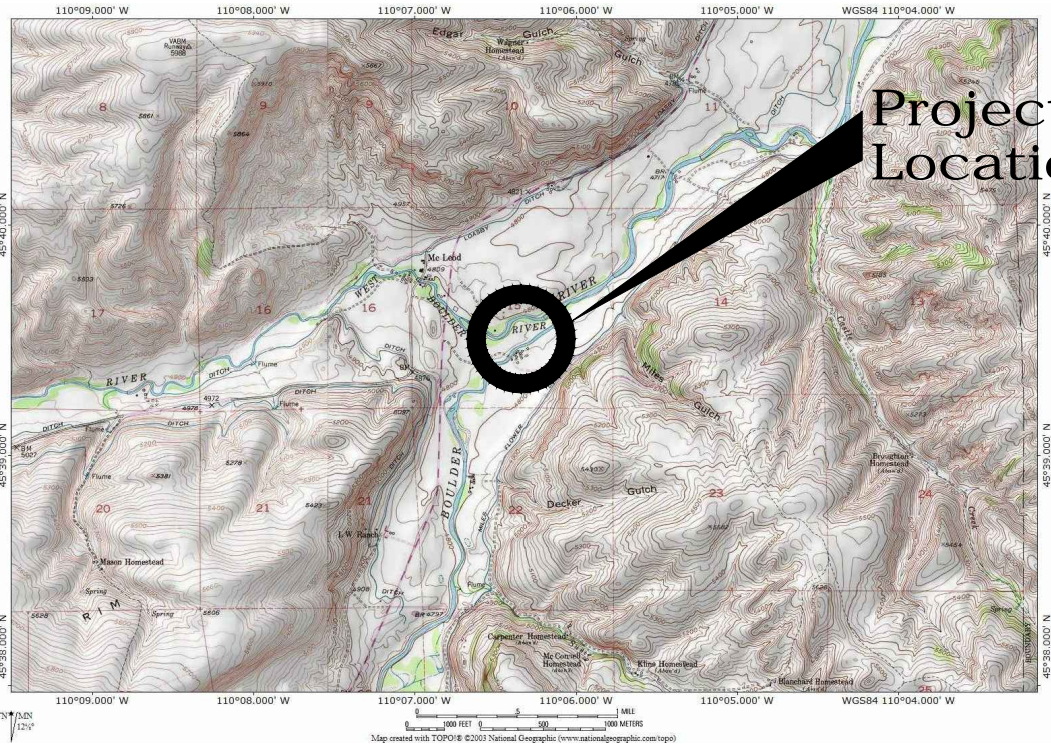
FWP #7153722



Project  
Location

Location Map

No Scale



Project  
Location

Vicinity Map

No Scale

MONTANA FISH, WILDLIFE AND PARKS  
DESIGN AND CONSTRUCTION

MAILING ADDRESS:      PHYSICAL ADDRESS:  
PO BOX 200701      1522 9th AVENUE  
HELENA, MT 59620-0701      HELENA, MT 59601  
TEL 406.841.4000  
FAX 406.841.4004  
[fwp.mt.gov/Doing\\_Business/Design&Construction](http://fwp.mt.gov/Doing_Business/Design&Construction)

## DRAWING INDEX

- |   |                                    |    |                     |
|---|------------------------------------|----|---------------------|
| 1 | COVER SHEET                        | 6  | RAMP GRADING PLAN   |
| 2 | BORROW PIT SITE PLAN               | 7  | ACCESS ROAD PROFILE |
| 3 | SITE MAP & HORIZONTAL CONTROL PLAN | 8  | RAMP PROFILE        |
| 4 | OVERALL GRADING PLAN               | 9  | ROAD CROSS SECTIONS |
| 5 | ACCESS PARKING GRADING PLAN        | 10 | TYPICAL DETAILS     |

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Cover Sheet  
Boulder Forks Fishing Access Site



SHEET:

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of  
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GIS LOCATION:  
 STOCK/GRAVEL PILE – 45°53'18.70"N,109°58'20.49"W  
 ACCESS ROAD GATE – 45°53'15.49"N,109°58'24.06"W  
 VOLUME OF PILE = 3500 CUBIC YARDS

STOCK PILES NOT  
 PART OF THIS  
 PROJECT SHOWN BLUE

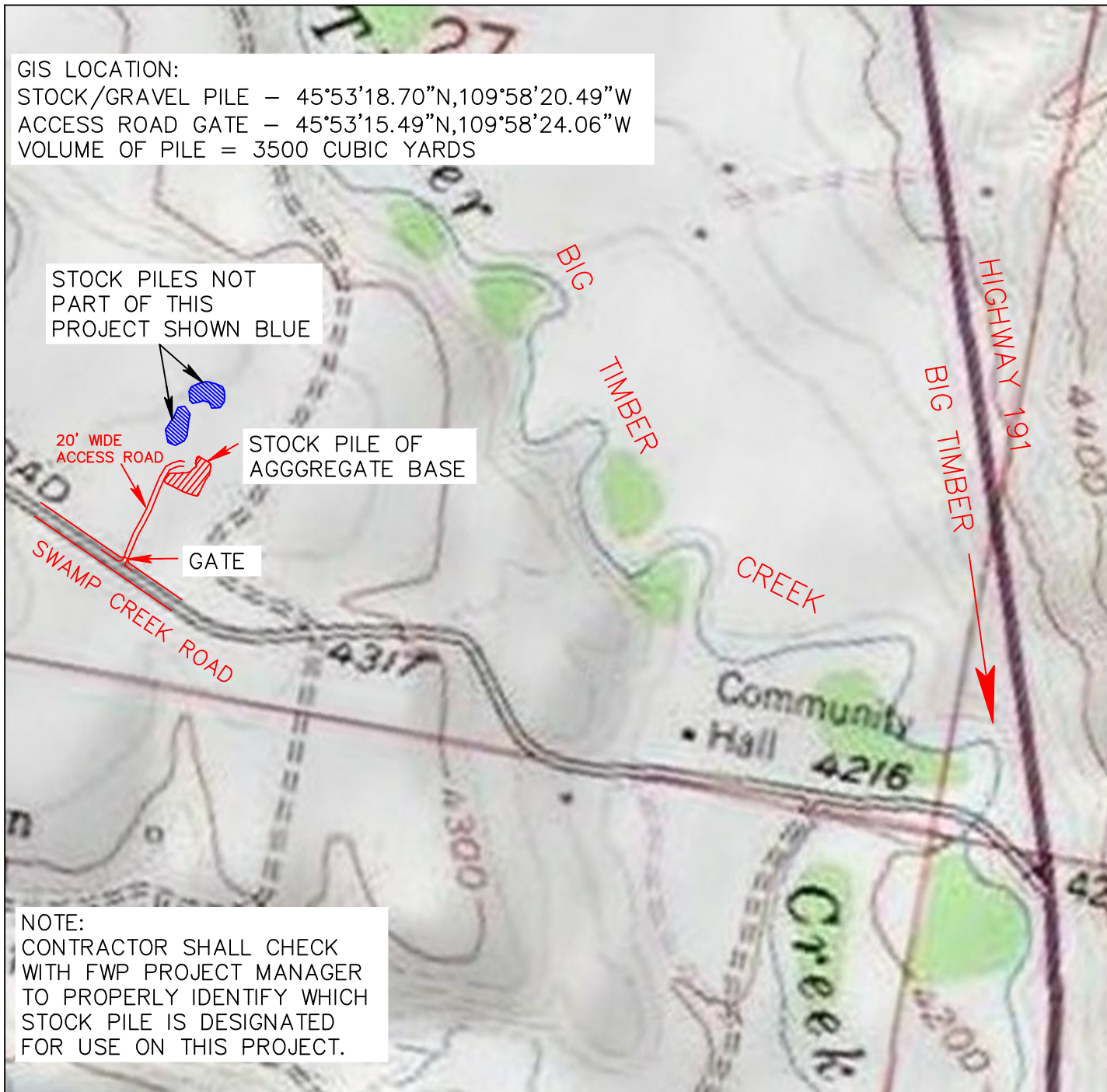
20' WIDE  
 ACCESS ROAD

STOCK PILE OF  
 AGGREGATE BASE

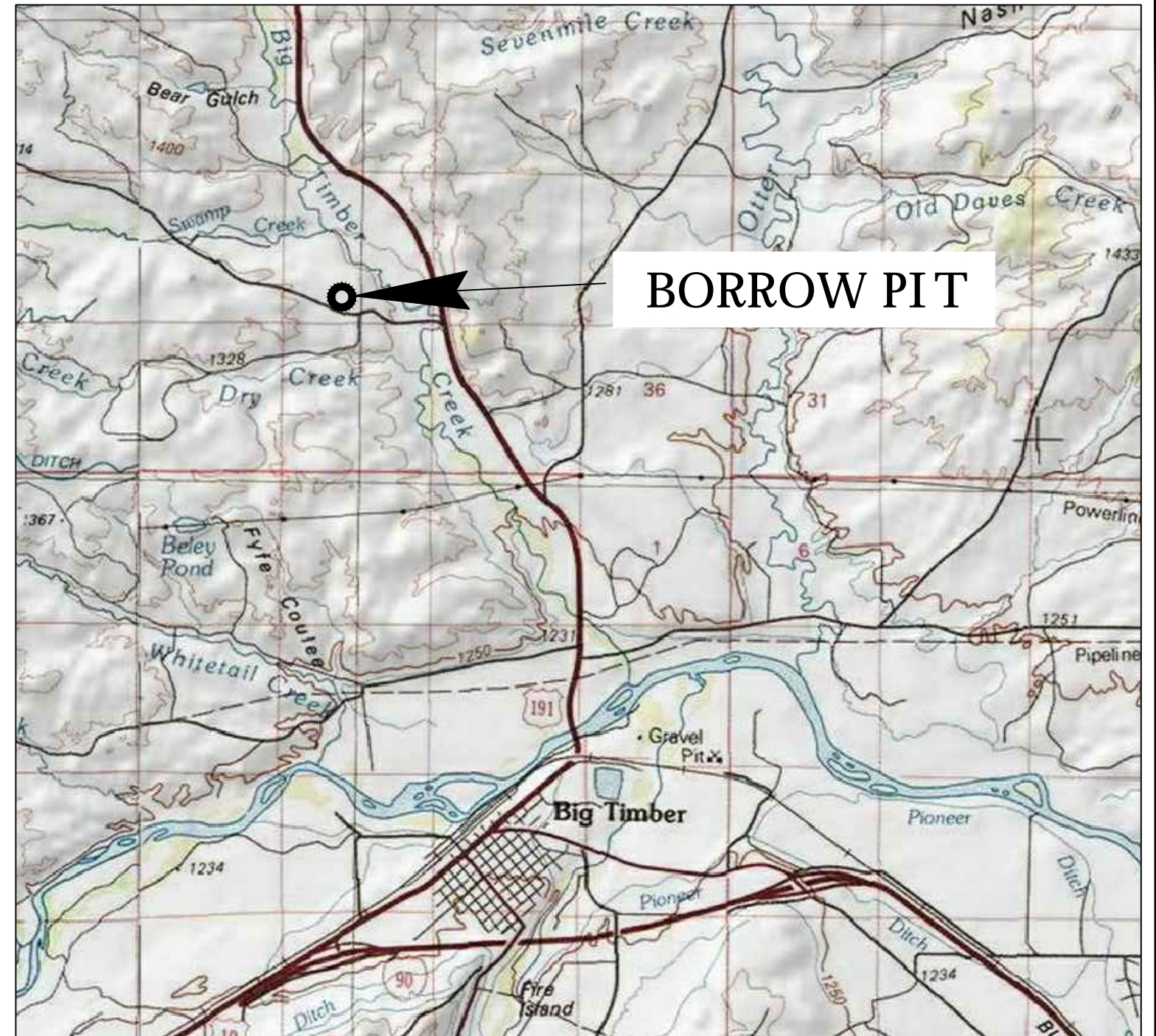
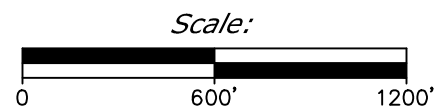
GATE

SWAMP CREEK ROAD

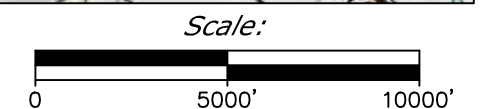
NOTE:  
 CONTRACTOR SHALL CHECK  
 WITH FWP PROJECT MANAGER  
 TO PROPERLY IDENTIFY WHICH  
 STOCK PILE IS DESIGNATED  
 FOR USE ON THIS PROJECT.



## SWAMP CREEK ROAD BORROW SITE



## BORROW PIT LOCATION ON MAP



Note: The haul distance from the construction site to the borrow site is 22 Miles. The stock pile of Aggregate Base is located on Swamp Creek Road as shown hereon five miles north of Big Timber, Montana. The construction site is located near the community of McLeod, Montana, ze 17 miles south of Big Timber on Highway 298 (see sheet 1 of 10).

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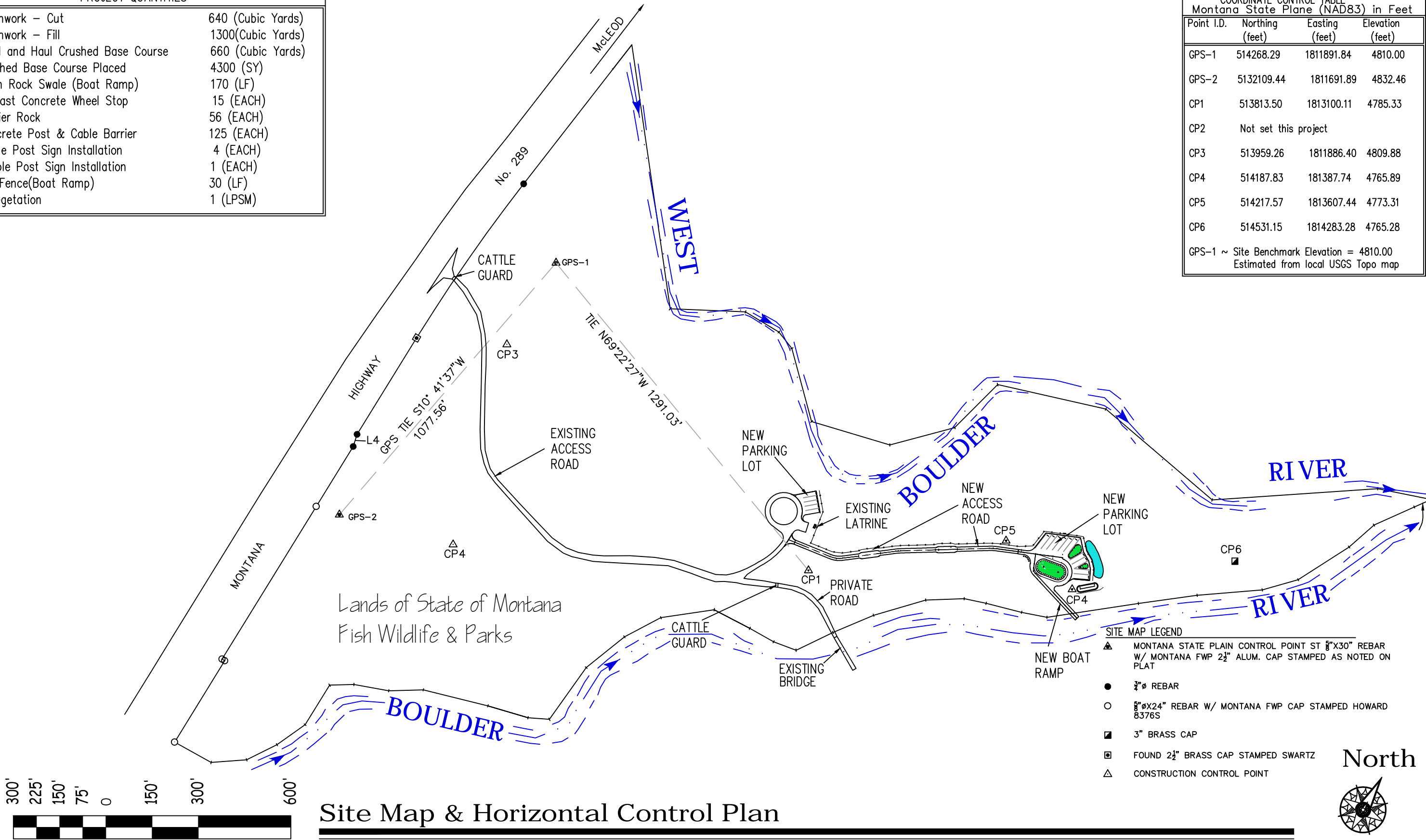
**Borrow Pit Site Plan**  
 Boulder Forks Fishing Access Site



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of  
10

PROJECT QUANTITIES	
Earthwork – Cut	640 (Cubic Yards)
Earthwork – Fill	1300(Cubic Yards)
Load and Haul Crushed Base Course	660 (Cubic Yards)
Crushed Base Course Placed	4300 (SY)
Drain Rock Swale (Boat Ramp)	170 (LF)
Precast Concrete Wheel Stop	15 (EACH)
Barrier Rock	56 (EACH)
Concrete Post & Cable Barrier	125 (EACH)
Single Post Sign Installation	4 (EACH)
Double Post Sign Installation	1 (EACH)
Silt Fence(Boat Ramp)	30 (LF)
Revegetation	1 (LPSM)

COORDINATE CONTROL TABLE			
Montana State Plane (NAD83) in Feet			
Point I.D.	Northing (feet)	Easting (feet)	Elevation (feet)
GPS-1	514268.29	1811891.84	4810.00
GPS-2	5132109.44	1811691.89	4832.46
CP1	513813.50	1813100.11	4785.33
CP2	Not set this project		
CP3	513959.26	1811886.40	4809.88
CP4	514187.83	181387.74	4765.89
CP5	514217.57	1813607.44	4773.31
CP6	514531.15	1814283.28	4765.28
GPS-1 ~ Site Benchmark Elevation = 4810.00 Estimated from local USGS Topo map			



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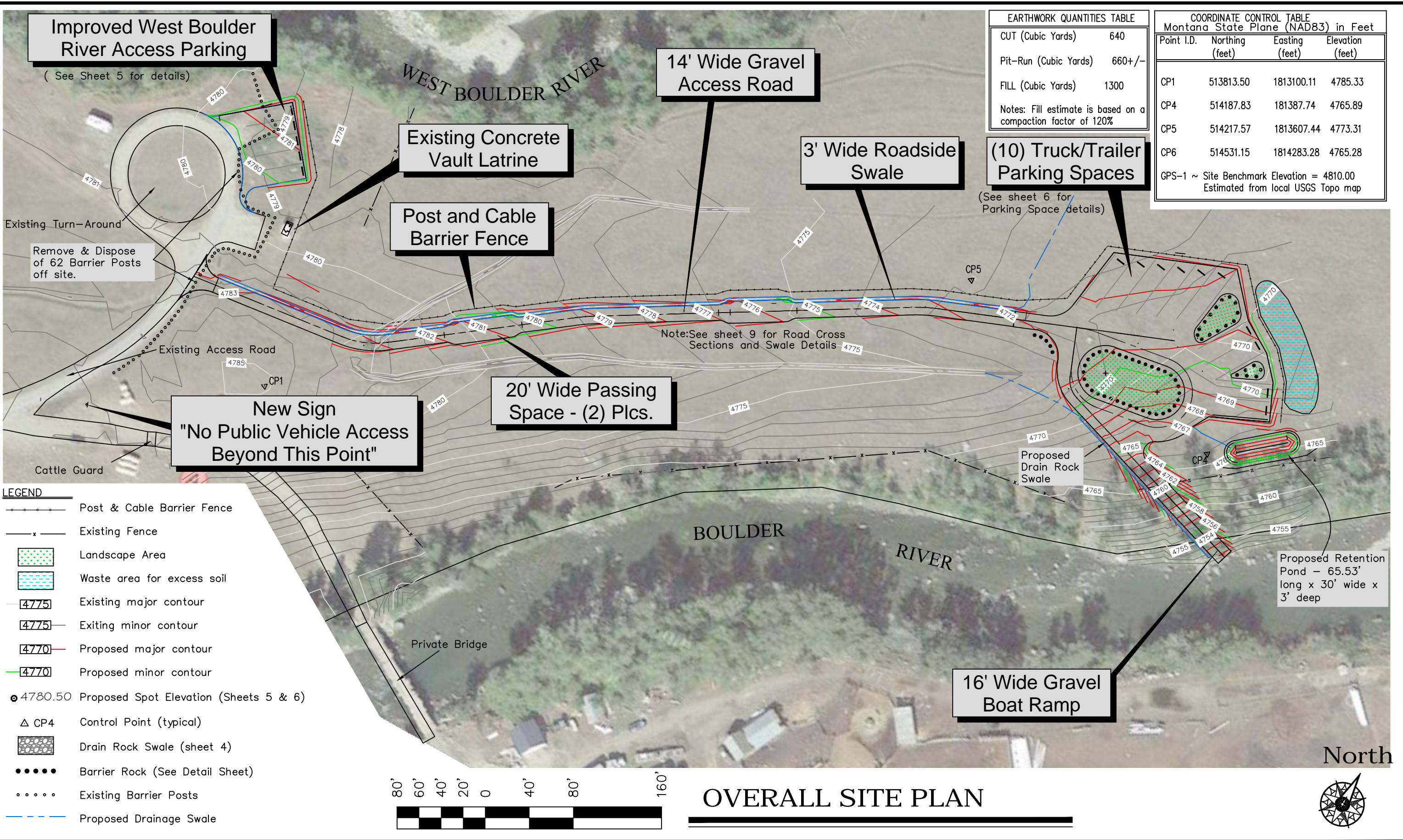
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Site Map & Horizontal Control Plan

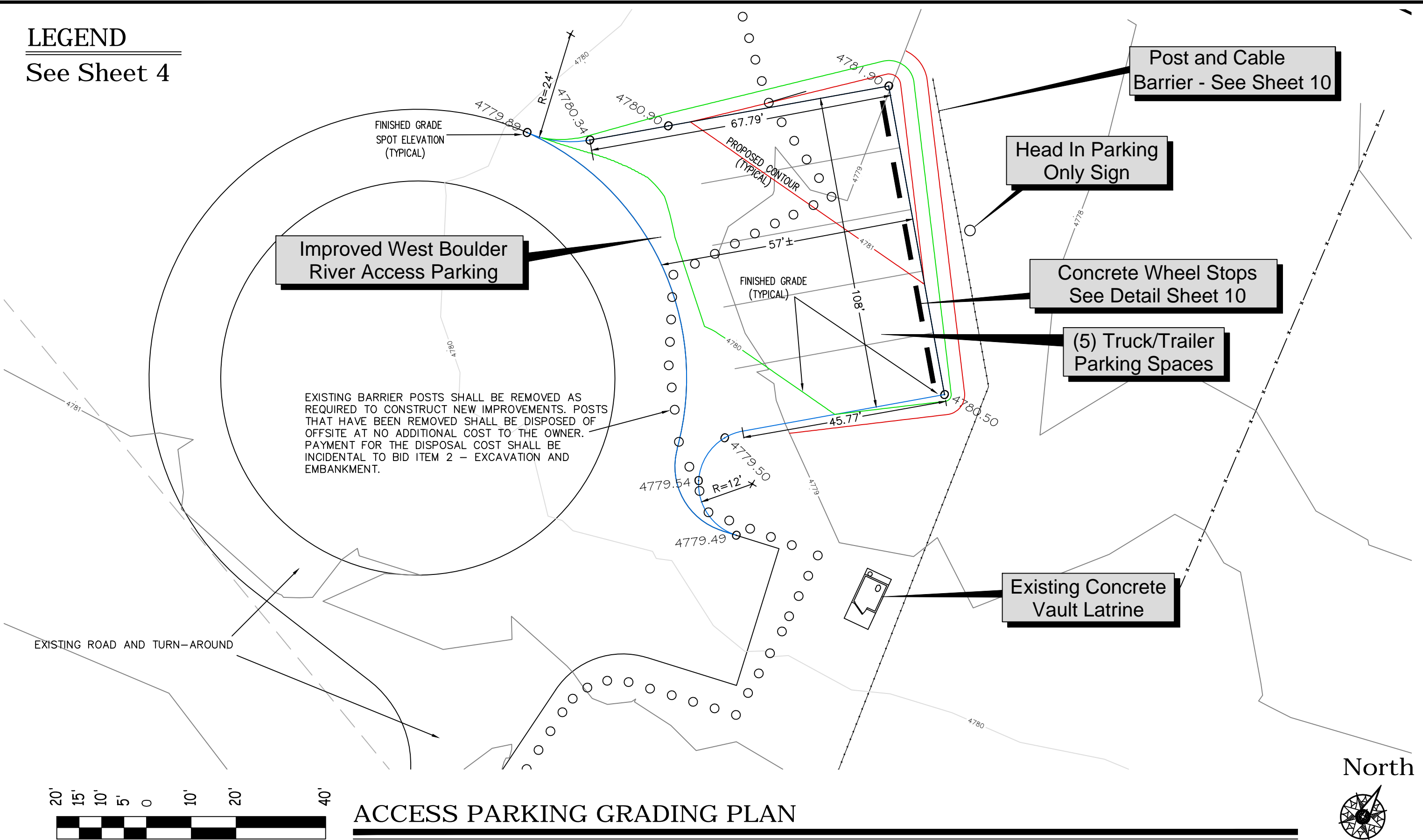
Boulder Forks Fishing Access Site

SHEET:

3 of 10



LEGEND  
See Sheet 4



ACCESS PARKING GRADING PLAN

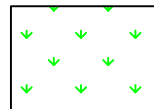
B. Mangum	11/9/2015				
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CHECKED BY:	DATE:	APPROVED BY:	DATE:	APPROVED BY:	DATE:



Access Parking Grading Plan  
Boulder Forks Fishing Access Site

# LEGEND

See Sheet 4



Install  
Landscape Mound  
See Sheet 9

Post and Cable  
Barrier - See Sheet 10

Concrete Wheel Stops  
See Detail Sheet 10

(10) Truck/Trailer  
Parking Spaces

Head in Parking  
Only Sign

14' Wide Gravel  
Access Road

See Sheet 3 for  
Control Point Data  
(typical)

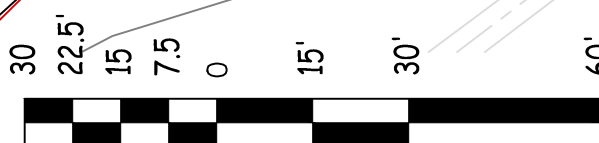
One Way  
Sign

Drain Rock Swale  
See Detail Sheet 9

Barrier Rock  
See Detail Sheet 10

16' Wide Gravel  
Boat Ramp

## RAMP GRADING PLAN



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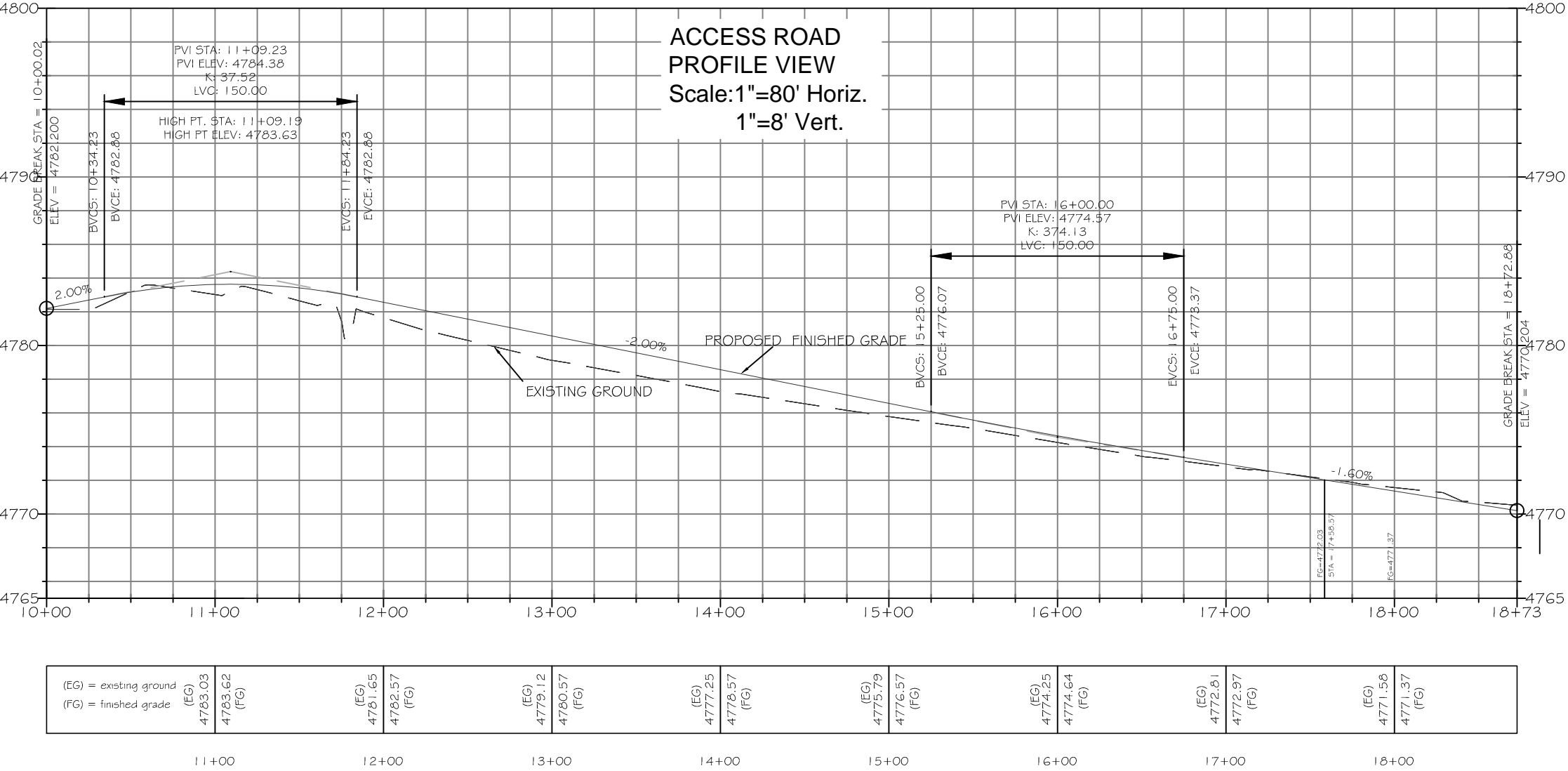
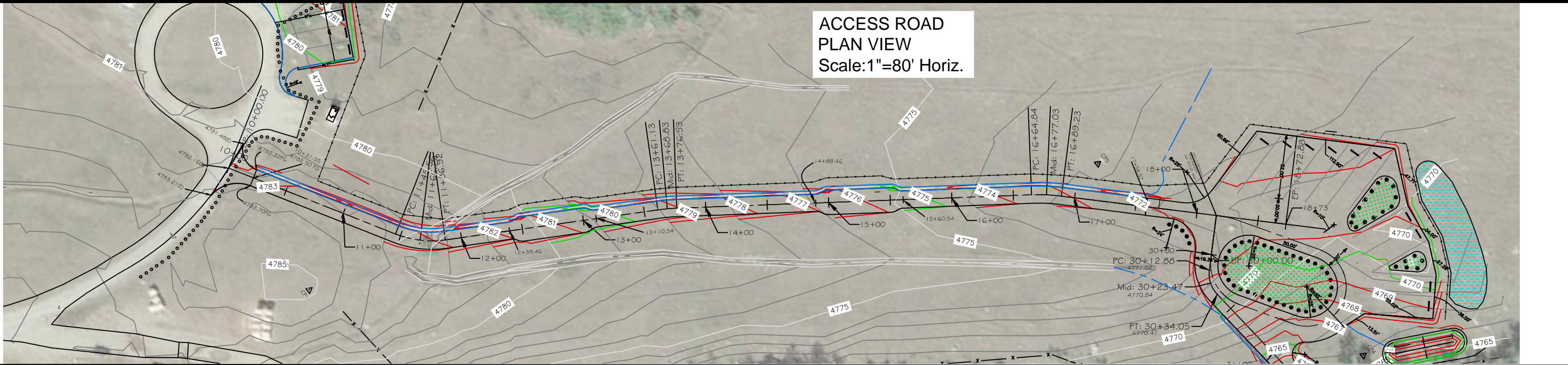
**Montana Fish  
Wildlife & Parks**

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**Ramp Grading Plan**  
Boulder Forks Fishing Access Site



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of  
10



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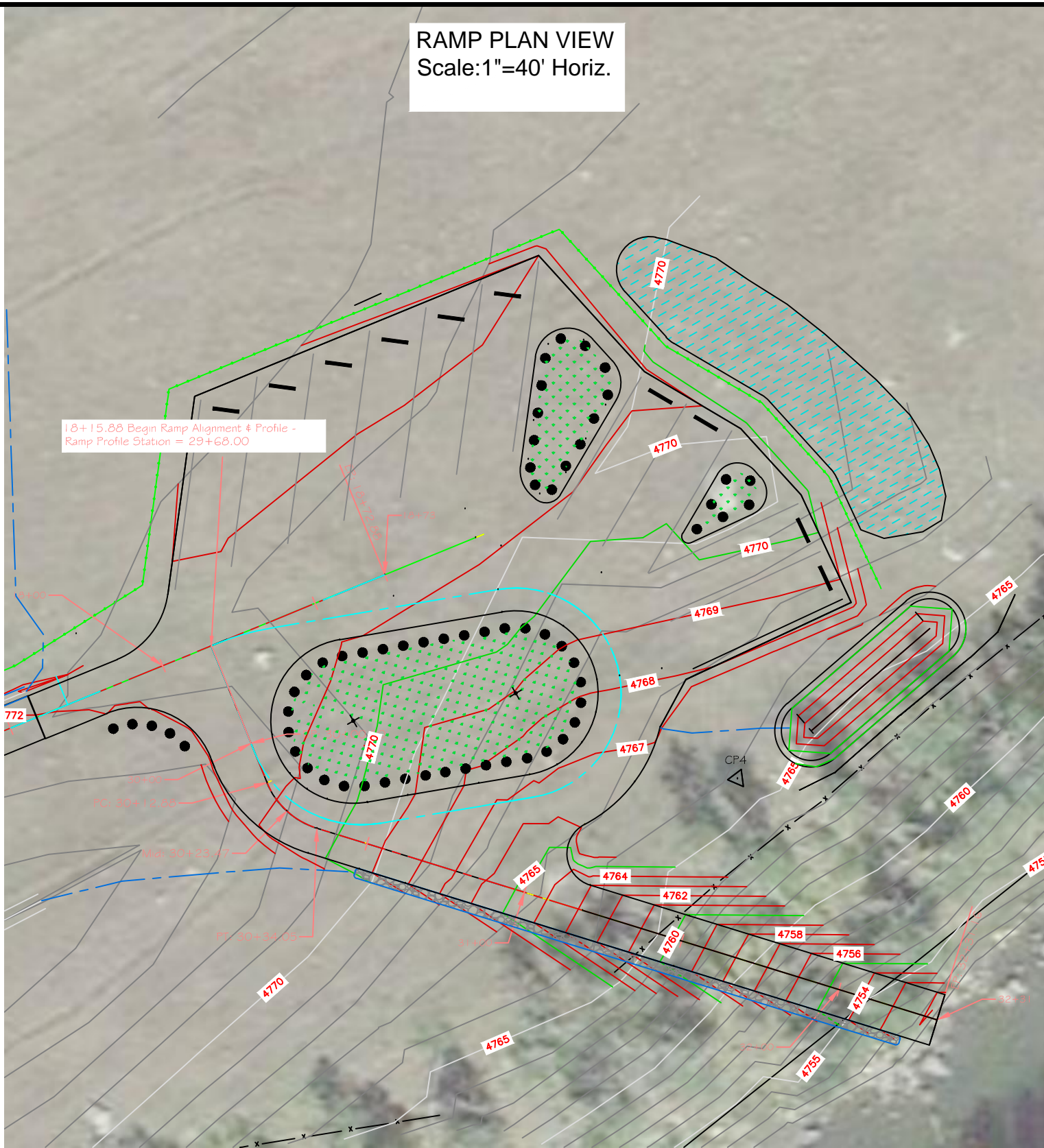
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Wildlife & Parks

Access Road Profile  
Boulder Forks Fishing Access Site

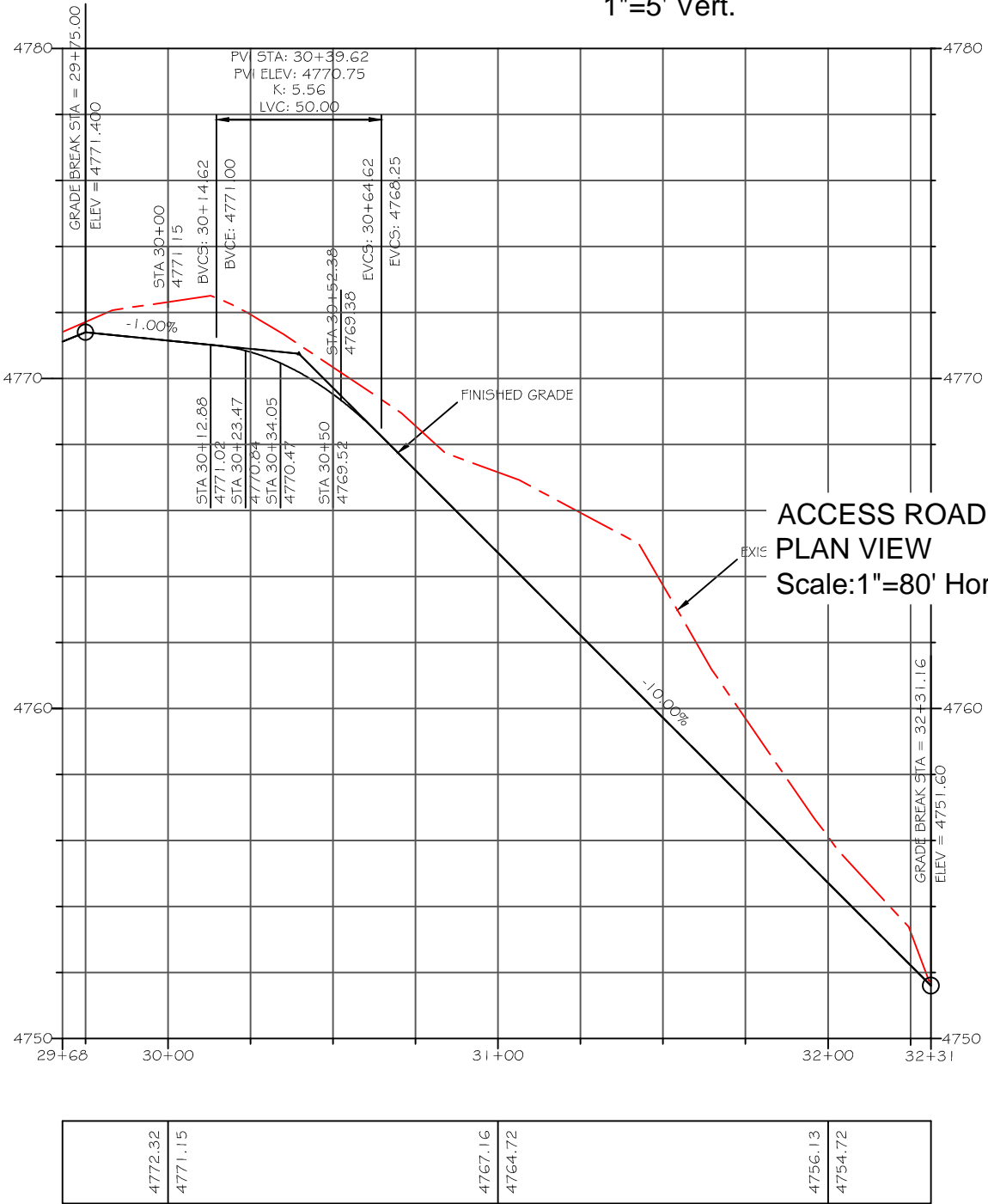


SHEET: 7  
of 10

RAMP PLAN VIEW  
Scale:1"=40' Horiz.



RAMP  
PROFILE VIEW  
Scale:1"=50' Horiz.  
1"=5' Vert.



ACCESS ROAD  
PLAN VIEW  
Scale:1"=80' Horiz.

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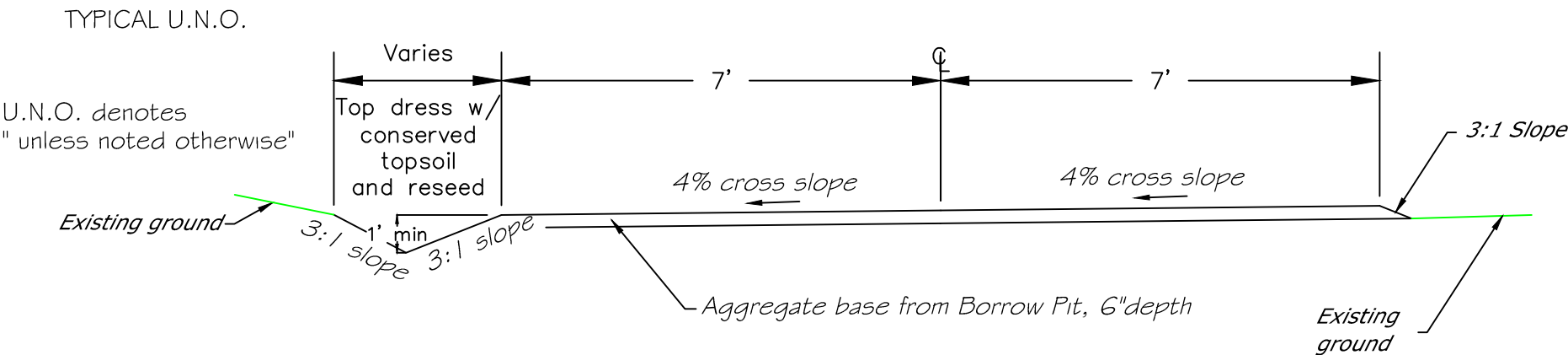
Ramp Profile  
Boulder Forks Fishing Access Site



SHEET:

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of  
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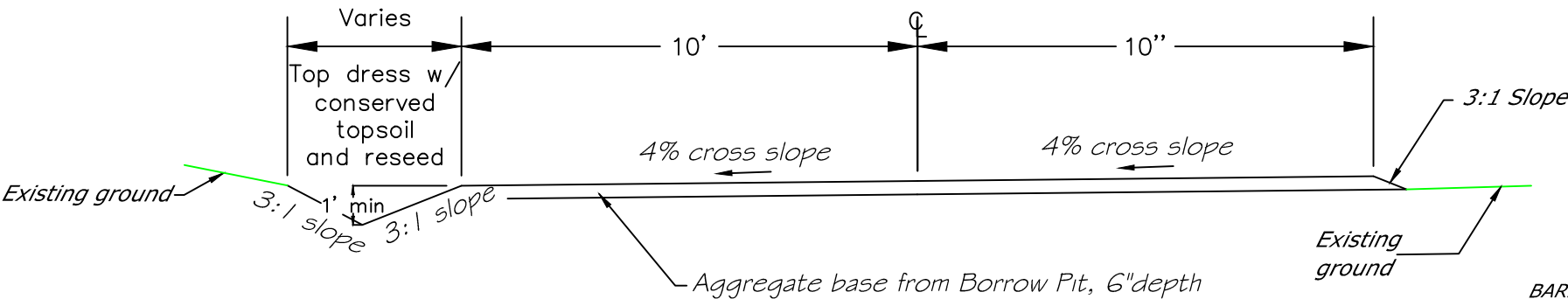
**TYPICAL SECTION NO. 1 - River Access Road w/ Aggregate Base**



12+50 to 13+00  
15+00 to 15+50

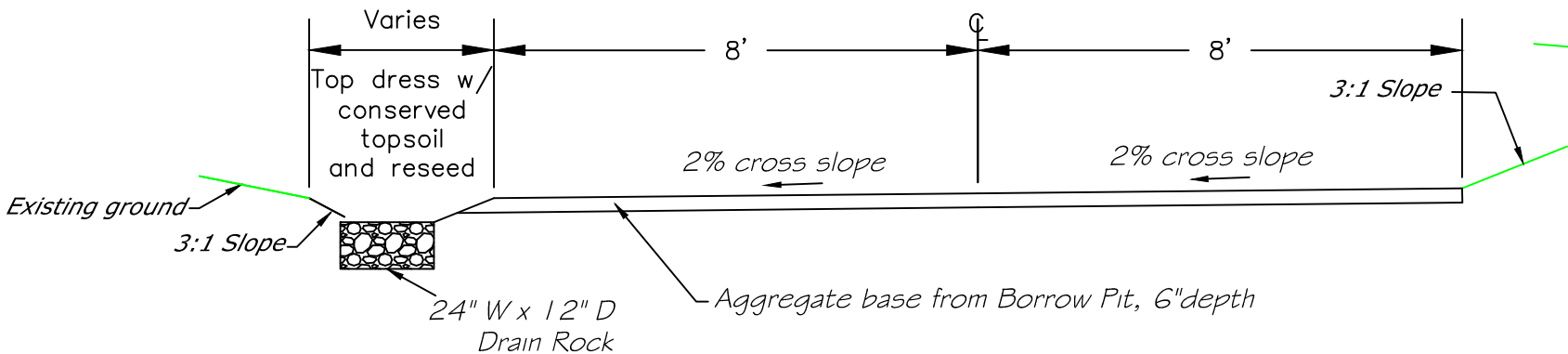
**TYPICAL SECTION NO. 2 - Passing Lane w/ Aggregate Base**

(Not to Scale)



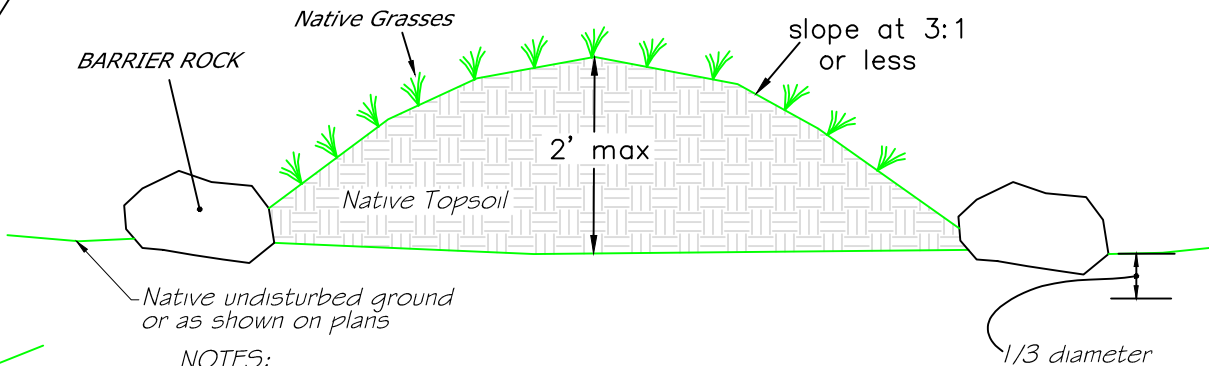
**TYPICAL SECTION NO. 3 - Gravel Boat Ramp**

(Not to Scale)



**LANDSCAPE MOUND CROSS-SECTION**

(Not to Scale)



**NOTES:**

1. Landscape Mound material shall be onsite Native Topsoil from disturbed areas.
2. Mound soil no higher than 3' at center and graded to perimeter at less than 2 to 1.
3. Surface of mound shall be seeded with native grasses per specifications.
4. Place barrier rocks as shown on sheet 8
5. Mound shall be compacted in a manner that will promote the growth of native grasses and at the same time be sufficient to prevent erosion.

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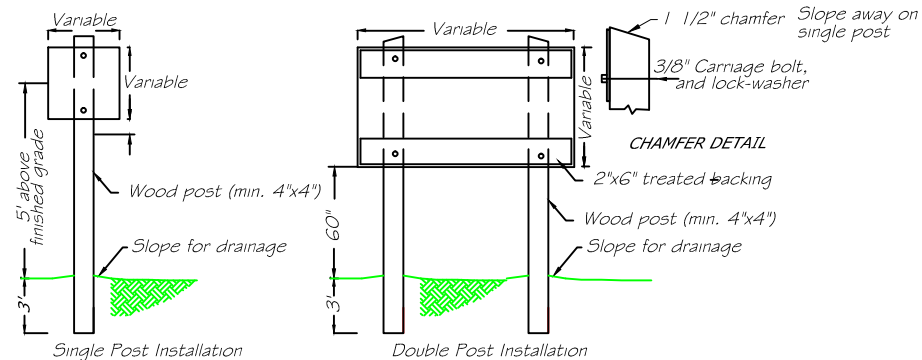
145

**Road Cross Sections**  
Boulder Forks Fishing Access Site



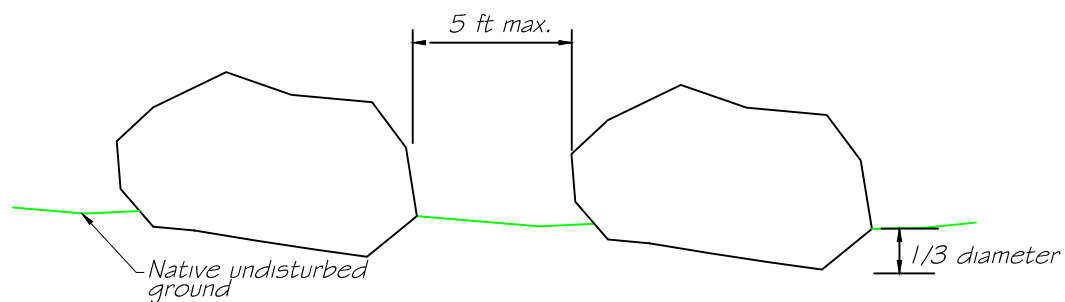
SHEET:

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of  
10



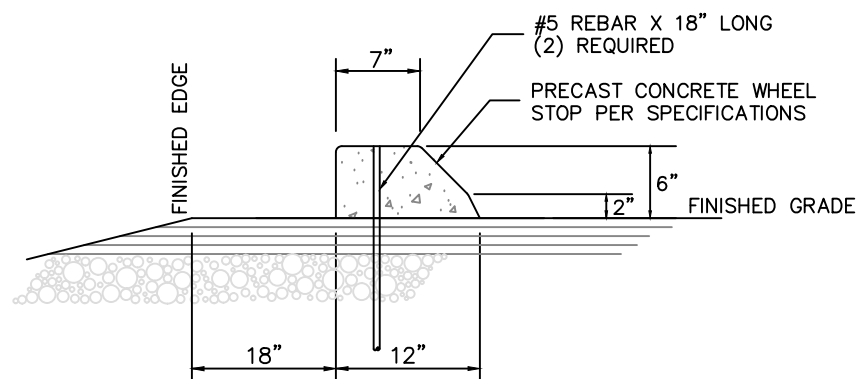
- NOTES:
1. Use pressure treated timbers for all sign posts. Need break-away holes (or device) for larger posts.
  2. Coat all posts with preservative for all drilled holes and cut surfaces.
  3. Use cadmium plated or galvanized steel for all bolts, nuts & washers.
  4. Place bolts to not interfere with sign lettering. Paint bolt heads to match sign.
  5. Center single post panels to post, overhang panels 3" beyond posts for double post installations. Extend all posts 3" above sign panels.
  6. See break-away detail for posts larger than 4 inches in diameter.

**SIGN POST MOUNTING DETAIL**  
(Not to Scale)

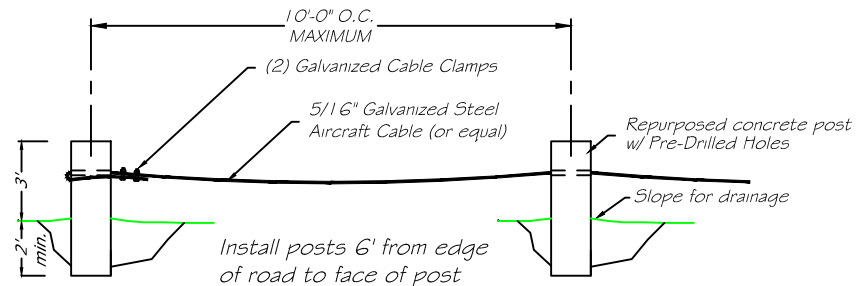


- NOTES:
1. Embed barrier rocks 1/3 of barrier rock diameter.
  2. Backfill each boulder with barrier rock excavation material.
  3. Space barrier rocks at a maximum distance of 5 ft (edge to edge).
  4. Place barrier rocks 5-6 ft from edge of road (edge to gravel).
  5. Barrier rocks shall be 2.5' to 3.5' in nominal diameter as measured on the long axis.

**BARRIER ROCK DETAIL**  
(Not to Scale)

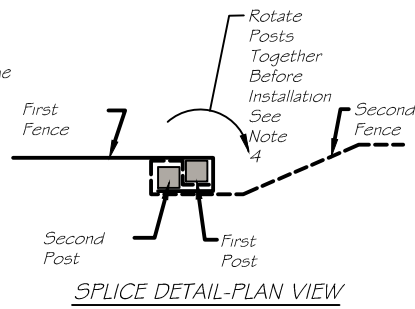
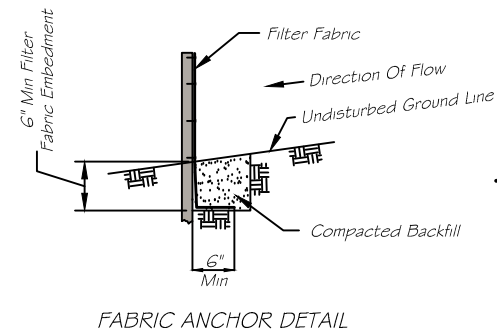
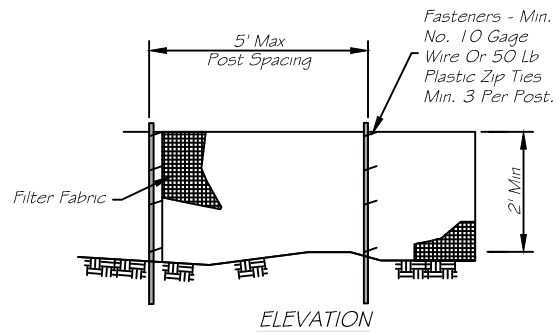


**PRECAST CONCRETE WHEEL STOP DETAIL**  
(Not to Scale)



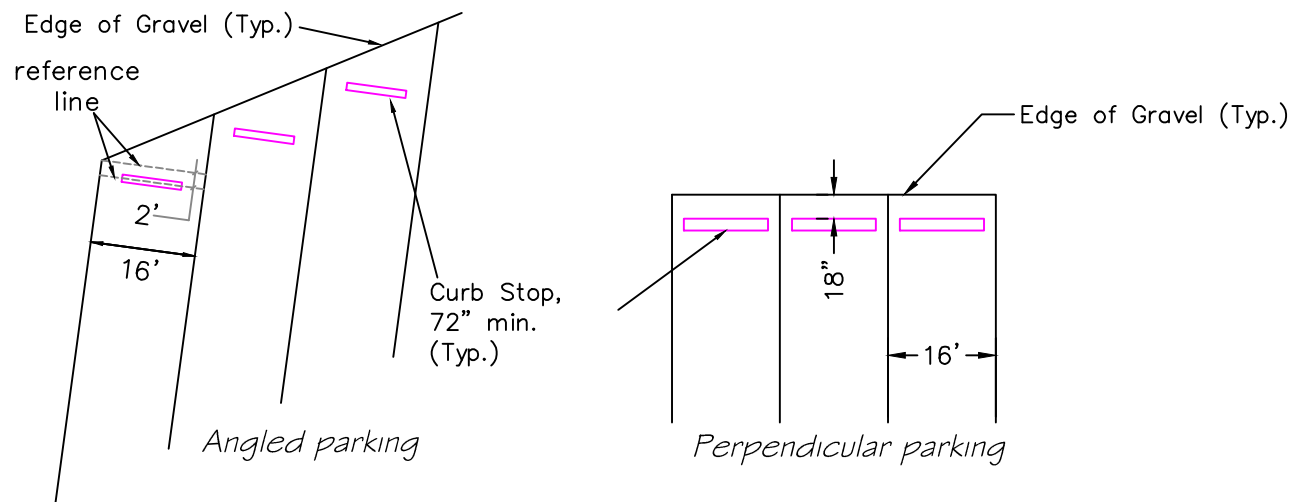
- NOTES:
1. Ensure posts are plumb and true. Tamp soil tight to maintain position.
  2. Pull cable tight enough to minimize deflection without pulling posts from plumb position.
  3. Use cadmium plated or galvanized steel for all cable clamps, bolts, nuts & washers.

**BARRIER POST AND CABLE DETAIL**  
(Not to Scale)



- NOTES:
1. Temporary silt fence shall be installed prior to any grading work in the boat ramp area. Fence shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
  2. Filter fabric shall meet the requirements of MPWS specification 02110 Geotextiles.
  3. Fence posts shall be either wood post with a minimum cross-sectional area of 1.5" X 1.5" or a standard steel T post.
  4. When splices are necessary make splice at post according to splice detail. Place the end post of the second fence inside the end post of the first fence. Rotate both posts together at least 180 degrees to create a tight seal with the fabric material. Cut the fabric near the bottom of the posts to accommodate the 6 inch flap. Then drive both posts and bury the flap. Compact backfill well.

**SILT FENCE AT GRAVEL BOAT RAMP**  
(Not to Scale)



- NOTES: 1. Place Center of Pin-Down Curb 2 Feet From Reference Line for Angled Parking.
- PIN-DOWN CURB LOCATION DETAIL**  
(Not to Scale)

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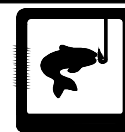
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**Typical Details**  
Boulder Forks Fishing Access Site



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